

Systems Engineering Simulator (SES)

Simulator Request Worksheet

Purpose: The purpose of this questionnaire is to provide the customer with a means of identifying essential elements required to generate a cost and schedule estimate. Please return this form to Mike McFarlane, SES Laboratory Manager, michael.r.mcfarlane@nasa.gov

1. Study Name:

2. Mission Designation (if applicable):

3. Dates:

- a. Expected study start date:
- b. Expected study end date:
- c. Expected product delivery date:
- d. List other milestones, blackouts, or date requirements:

4. Contact Information:

Primary POC Name	Phone	E-mail Address
Company/Agency		Role/Title

Name	Phone	E-mail Address
Company/Agency		Role/Title

Name	Phone	E-mail Address
Company/Agency		Role/Title

Name	Phone	E-mail Address
Company/Agency		Role/Title

5. Check all services that will need to be provided by the SES:

Task		Comments/Notes
<input type="checkbox"/>	Data Recording/Collection	
<input type="checkbox"/>	Data Processing	
<input type="checkbox"/>	Data Analysis	
<input type="checkbox"/>	Test Conductor	
<input type="checkbox"/>	Test Subjects	
<input type="checkbox"/>	Simulation Model Development	
<input type="checkbox"/>	Simulation Integration	
<input type="checkbox"/>	Hardware Fabrication	
<input type="checkbox"/>	Hardware Integration w/ Facility	
<input type="checkbox"/>	Simulation Input Data	

6. Study Overview

Give detailed description of scenario(s) to be simulated. Please include the following information:

- Active vehicle(s) in scenario
- Active systems on vehicles (e.g., control systems, sensors)
- Contact surfaces to be modeled
- Environment (e.g., Earth atmosphere, lunar surface, Mars orbit)
- Any other information

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SES has standard models (e.g., orbital dynamics, atmosphere, contact modeling). Are there any special or enhanced models required for the study?

Does the study require human-in-the-loop interaction? ☐ Yes ☐ No

If so, do test subjects need to be astronauts? ☐ Yes ☐ No

Does the study require hardware-in-the-loop interaction? ☐ Yes ☐ No

Operations to be performed (select all that apply):

- a. ☐ Docking/Berthing – Specify Vehicles to Dock/Berth:
- b. ☐ Ascent
- c. ☐ Entry
- d. ☐ Landing
- e. ☐ On-orbit
- f. ☐ Surface roaming
- g. ☐ Robotic arm operations
- h. ☐ Other:

Relevant Procedures and Reference Information:

- a. List any available relevant procedures and/or test plans:

- i. ☐ Available online at:
- ii. ☐ Will provide electronic copy of preliminary/unpublished procedures/test plans.
- b. Are there any applicable materials or information, such as CAD drawings or dimensions, that would be useful in setting up hardware or software for this study?
 - i. ☐ Available online at:
 - ii. ☐ Will provide electronic copy.
- c. Do you have requirements documents from another facility or study that might be helpful in setting up this scenario? ☐ Yes ☐ No
 - If so, can you provide the SES with a copy? ☐ Yes ☐ No

7. Cockpits To be Used (select all that apply):

SES existing cockpits:

- a. ☐ Cupola
- b. ☐ Orion Upright Cockpit
- c. ☐ Orion Reclined Cockpit
- d. ☐ Rover/MMSEV
- e. ☐ Lander

Customer-provided cockpits/hardware (*Describe below. Please provide expected delivery date for each provided component.*):

New Cockpits/hardware to be fabricated by the SES: (*Describe below.*)

8. Simulation Information:

Do you plan to provide a simulation for use in the SES facility? ☐ Yes ☐ No

a. If yes, please describe the simulation and how it will interface with the SES facility:

b. Please provide the expected delivery date of the simulation(s):

Do you plan to provide simulation models to be integrated into an existing SES simulation?

☐ Yes ☐ No

If yes, please specify the types of models and expected delivery date for each model:

Types	Delivery Date

If you plan to use an existing SES simulation, and have a preference on the simulation revision used, please specify here:

9. Graphics/Scenes Information:

Do you require a Dome visual system? ☐ Yes ☐ No

Do you have a preference for a graphics rendering program (If yes, please specify.)? ☐ Yes ☐ No

Will you need new graphics models implemented into the scenes for your study? ☐ Yes ☐ No

If yes, please answer the following:

- a. Will you be supplying the graphics models or do you need them to be developed?
- b. If you will be supplying graphics models or any data required for the SES to build graphics models, please specify the expected delivery date for each delivered item:

Do you have any special graphics requirements (e.g., overlays, animations)?

10. Special Hardware and Software setup required:

- ☐ Use Existing (No special hardware or software needed.)
☐ Use information from previous study/mission:
☐ Use information specified in table below:

Hardware Information

a.

Special Hardware	To Be Supplied By	Usage Limitations*	Need Date
To Be Installed By	Version/Description	Comments/Installation Location	Permanent or Returned to Supplier

b.

Special Hardware	To Be Supplied By	Usage Limitations*	Need Date
To Be Installed By	Version/Description	Comments/Installation Location	Permanent or Returned to Supplier

c.

Special Hardware	To Be Supplied By	Usage Limitations*	Need Date
To Be Installed By	Version/Description	Comments/Installation Location	Permanent or Returned to Supplier

d.

Special Hardware	To Be Supplied By	Usage Limitations*	Need Date
To Be Installed By	Version/Description	Comments/Installation Location	Permanent or Returned to Supplier

Software Information

a.	Special Software	To Be Supplied By	Usage Limitations*	Need Date
	To Be Installed By	Version/Description	Comments/Installation Location	Permanent or Removed

b.	Special Hardware	To Be Supplied By	Usage Limitations*	Need Date
	To Be Installed By	Version/Description	Comments/Installation Location	Permanent or Returned to Supplier

c.	Special Hardware	To Be Supplied By	Usage Limitations*	Need Date
	To Be Installed By	Version/Description	Comments/Installation Location	Permanent or Returned to Supplier

d.	Special Hardware	To Be Supplied By	Usage Limitations*	Need Date
	To Be Installed By	Version/Description	Comments/Installation Location	Permanent or Returned to Supplier

*Usage limitations – Is software/hardware proprietary; can it be used by others or for demonstrations?

11. Special Hardware / Software Minimum Specifications (Describe all that apply):

- a. Operating System Version:
- b. CPU:
- c. Video Card (s):
- d. RAM:
- e. Disk Space:
- f. Other:

12. Required Products

- ☐ Recorded sim data (specify approximate number of parameters and recording frequency):

- ☐ Tables (specify format):

- ☐ Plots (specify format):

- ☐ Reports (specify scope of expected reports):

- ☐ Scene/graphics capture (specify format and frame rate):

- ☐ Video recording:

- ☐ Audio recording:

13. Additional Requirements/ Comments: